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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/010,822	01/22/98	KNOWLTON	G 3756-399

020583  
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EXAMINER	
MILLER, E	
ART UNIT	PAPER NUMBER

3641

DATE MAILED: 09/13/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

**Office Action Summary**

Applicant(s)

09/010,822

Applicant(s)

KNOWLTON ET AL.

Examiner

Edward A. Miller

Art Unit

3641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2 and 4-32 is/are pending in the application.
- 4a) Of the above claim(s) 2,4-12 and 19-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,13-18 and 25-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some \* c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☐ received.
2. ☐ received in Application No. (Series Code / Serial Number) \_\_\_\_.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

**Attachment(s)**

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: \_\_\_\_\_

Serial No. 09/010,822  
Art Unit 3641

1. The text of those sections of Title 35, U. S. Code, not included herein can be found in a prior Office action.

2. Claims 1, 13-18 and 26-32 are rejected under 35 U.S.C. 103 as being unpatentable over Sammons et al. in view of Sidebottom, Garner '253, Healy and Ellern et al.

Sammons et al. teach a composition which includes a metal fuel, col. 5, lines 54-64, e.g., including molybdenum at about line 61. Further, the composition includes a polymer binder which is solid when cured, which includes amine groups and therefore is a solid organic amine, conveniently note claim 10. The oxidizers are taught at col. 6, lines 14-44, with silver perchlorate as a Group IB metal perchlorate at lines 31-32, and reciting nitrates if IB metals at lines 36-37. This clearly teaches or at least suggests silver nitrate. The additives that may be employed include guanidine nitrate at col. 7, line 70. In view of Sidebottom, Garner '253, and Healy, it would have been clearly obvious to use silver nitrate as the oxidizer. Ellern, pages 296-300, and particularly Table 31 on page 299 teaches regarding the melting and decomposition temperature temperatures of silver nitrate, and discusses the reaction of solid fuels with solid oxidizers as related to the melting temperature. This would seem to suggest the relatively low decomposition or autoignition (spontaneous ignition) temperature of such compositions. Further, as to the claim 18 fuel rich requirement, this would seem to be suggested by the teaching of varying the metal, including molybdenum, fuel content from 0.2 to 32% by weight. Since the specific ingredients are taught or clearly suggested, this would seem to suggest that the functional requirements are met, or this supports the proposition that the claims are unduly broad and indefinite. It is well settled that optimizing a result effective variable is well within the expected ability of a person of ordinary skill in the subject art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), *In re Aller*, 220 F.2d 454, 105 USPQ 233 (CCPA 1955).

3. Claims 1, 13-16, and 25-32 are rejected under 35 U.S.C. 103 as being unpaten-

table over Halliday et al. in view of Tepper and Ellern.

Halliday et al. teach an invention which comprises aluminum metal fuel, col. 1, lines 37-40, together with an oxidizer of nitrates which have a low melting point, col. 2, lines 19-43. These may include silver nitrate, line 41. Further, guanidine nitrate and other amines are taught at col. 2, lines 60-64, e.g. In view of Tepper, col. 1, lines 43-48, substitution of a similar metal fuel, taught for use with eutectic or peritectic oxidizer salt compositions, would have been obvious. Ellern further teaches specific low melting salt mixtures in "Table 19", page 271, which include silver, e.g., at 20 Li, 61 NH<sub>4</sub>, and 36.5 Ag (at 52 degrees C.) and the next several lines. Substitution of such a low melting ammonium nitrate/silver nitrate mixture for the ammonium nitrate low melting mixture of Halliday et al., which may include silver and other nitrates, would have been obvious to one of ordinary skill in the art. See the case law supra.

4. Claims 1, 13-18 and 25-32 are rejected under 35 U.S.C. 112, first and second paragraphs, because the claimed invention is not described in such full, clear, concise and exact terms as to enable any person skilled in the art to make and use the same, and/or for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are unduly broad and indefinite. While there is a functional limitation of a certain temperature of autoignition, there is inadequate specifics, particularly with relationship to broad claim 1, as to the ingredients and amounts employed to effect such functional result. It is deemed that the determination thereof, particularly with respect to claim 1 would require undue experimentation to determine the meets and bounds of the invention. The specification is objected to therefore, and the claims lack adequate support in this regard.

It is noted that applicants recite that solid organic amines are oxidizers throughout

the claims and specification. This is simply incorrect. Note Khandhadia, col. 2, line 65-col. 3, line 10; Poole '757, col. 4, lines 14-18 and 32-33; and Hock et al., col. 2, lines 58-66. It is perfectly clear that a fuel (organic amine, specifically tetrazole or aminotetrazole) is combusted by the oxidizer; it does not form any part of the oxidizer. Thus, applicants' specification and claims are defective in this regard. Further, a single example or alleged amine oxidizer, particularly in view of the error of such recitation, does not form an adequate basis for an entire genus of alleged amine oxidizers. It is apparent that the species that is disclosed has zero oxygen therein, and this also does not support the allegation. These are exemplary.

5. Claims 1, 13-16 and 26-32 are rejected under 35 U.S.C. 103 as being unpatentable over Poole et al. '380 in view of Ferrando et al., Katzakian et al., Halliday et al. and Yabsley et al.

Substitution of low melting oxidizer ingredients, including silver nitrate, of the secondary references for the nitrates/nitrites in the composition of Poole et al. '380, as at col. 2, lines 61-63, with metal as at col. 3, lines 41-50, would have been obvious to one of ordinary skill in the art to produce an autoignition composition as taught by Poole et al. '380. The HNT0 of Poole et al. is a solid organic amine as claimed in instant claim 1, line 11. As to the secondary references, Yabsley et al. teach low melting oxidizers which include nitrates including ammonium nitrate, at col. 2, lines 23-25, with silver nitrate, col. 2, line 44, also in claim 8 line 4 and claim 9 for eutectic compositions. Ferrando et al. teach the efficacy of silver nitrate oxidizer with metallic fuels at col. 3, lines 12-19 and col. 4, lines 25-31 for pyrophoric reaction as expected by one of ordinary skill in the art. Katzakian et al., although not to silver nitrate specifically, teach other nitrate additives for eutectic oxidizers at col. 5, lines 15-18, col. 7, lines 61-63 and col. 8, lines 25-30. In Halliday et al., ammonium nitrate is

taught with silver nitrate, col. 2, line 41, and further guanidine nitrate, col. 2, line 61. These are taught for use with aluminum metal fuel specifically, col. 1, line 37. It is well settled that optimizing a result effective variable is well within the expected ability of a person of ordinary skill in the subject art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), *In re Aller*, 220 F.2d 454, 105 USPQ 233 (CCPA 1955).

6. Claims 1, 13-15 and 26-32 are rejected under 35 U.S.C. 103 as being unpatentable over Halliday et al.

Halliday et al. teach a composition with aluminum metal fuel, mixed with a low melting oxidizer containing ammonium nitrate and additional oxidizers including silver nitrate, col. 2, line 41., as well as organic nitrates, col. 2, lines 62-68. These are to be in the form of mixtures which are low melting. As to these claims which include aluminum metal fuel, variation of specific ingredients and amounts would have been obvious to one of ordinary skill in the art. It is well settled that optimizing a result effective variable is well within the expected ability of a person of ordinary skill in the subject art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), *In re Aller*, 220 F.2d 454, 105 USPQ 233 (CCPA 1955).

That applicants propose a different utility for the composition does not lend patentability to the same composition for a different use. It is clear that a new intended use does not confer patentability on an otherwise old composition. See, for example, *In re Thuau*, 135 F.2d 344, 1943 C.D. 390, *In re Pearson*, 181 USPQ 641, and *In re Touminen*, 213 USPQ 89.

7. Applicants arguments have been noted, and they are not totally without merit. However, as to those claims which read on the simpler compositions, silver nitrate with additional nitrate and aluminum metal fuel, e.g., are deemed obvious in view of the teachings of the references. For example, in paragraph 3 above, the Examiner may find

that the additional combination of Tepper although clearly relevant, is to diverse rom the other references which are to melt in fuel. However, this would still leave at least aluminum metal, in combination. Likewise, Ellern in paragraph 2 may be deemed to suggest at least silver nitrate alone, arguendo if not in combination, with metal fuel. Further, even if the Examiner would find certain claims allowable, this would not result in allowance thereof, in view of the new rejection for obviousness type double patenting in the following paragraph.

8. Claims 1, 13-18 and 25-32 are rejected under the judicially created doctrine of obviousness-type double patenting for being unpatentable over the prior invention as set forth in claims 1-26 of US Patent No. 5,959,242. Although the conflicting claims are not identical, they are not patentably distinct from each other because of clear overlap.

The obviousness-type double patenting rejection is a judicially established doctrine based upon public policy and is primarily intended to prevent the improper extension of patent rights by prohibiting claims in a second patent which are not patentably distinct from claims in a first patent. *In re Vogel*, 164 USPQ 619 (CCPA 1970), *In re Kaplan*, 229 USPQ 678 (CAFC 1986). A timely filed terminal disclaimer in compliance with 37 C.F.R. 1.321(b) would overcome an actual or provisional rejection on this ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 C.F.R. 1.78(d).

9. Any inquiry concerning either this or an earlier communication from the Examiner should be directed to Examiner Edward A. Miller at (703) 306-4163.

Examiner Miller may normally be reached daily, except alternate Fridays, from 8:30 AM to 6 PM.

If attempts to reach Examiner Miller by telephone are unsuccessful, his supervisor, Mr. Jordan, can be reached at (703) 306-4159. The Group fax number is (703) 305-7687.

If there is no answer, or for any inquiry of a general nature or relating to the application status, please call the Group receptionist at (703) 308-1113.

Miller/em  
September 11, 2000



EDWARD A. MILLER  
PRIMARY EXAMINER